<u>California Building Energy Benchmarking Program Training Video</u>

Hi, my name is Daniele Horton. I'm the founder and president of Verdani Partners, and we're honored to present you with this training program on behalf of the California Energy Commission. Just a little background about Verdani Partners, we are a full service sustainability consulting firm and we manage sustainability programs for large real estate portfolios. One of the services that we offer is utility data management, so we help a lot of our clients benchmark, track, and submit utility data on behalf of their buildings. 75% of our portfolios are impacted by benchmarking laws, such as the one we're going to be discussing today. So we were tasked to develop this presentation to share some of our best practices and help guide you through the process of complying and better understanding the California Building Energy Benchmarking Program. This training is going to offered by myself and also two of our energy engineers, Chris Wei and Valerie Chan.

Thank you for watching the training about the California Energy Benchmarking Disclosure Program. On this slide, we're going to go over the Table of Contents with the information that we're going to cover on this presentation. We're going to start with a little introduction and background. Then we going to talk a little more about the Energy Benchmarking Program. Next we're going to cover how to comply, who is required to comply, some of the key deadlines and the compliance process. We're also going to go into a detailed ENERGY STAR Portfolio Manager training, including Portfolio Manager setup, how to submit your data, and also tips to maintain accuracy. And finally we're also going to end with some frequently asked questions and some additional resources that will be available to you on the California Energy Commission website.

So we want to give you a little background about what the California Energy Commission, is trying to accomplish. One of the main goals we are striving for this program is to become a proactive and informed government leader in energy efficiency. And as a lot of you are aware, California is ahead of the curve nationally with the many energy efficiency programs that we have implemented. So it's very exciting to see a lot of those initiatives taking place. One of the main actions that the Energy Commission if focusing on is implementation of this statewide program. They're going to continue to improve the development of California's Energy Benchmarking Infrastructure, and some changes and updates to some of the existing regulations. AB 802, for example, replaced AB 1103 that was in place before from 2007 to 2015. There was some issues with data access and reporting that were now fixed with AB 802, so with AB 802 repealing AB 1103, it also means streamlining and addressing a lot of the previous issues. So now we should have a very straightforward process which will make it more efficient and easy to comply with.

In this slide, we're going to be talking about Assembly Bill 802. The state of California passed AB 802 in October of 2015 to provide data access and to create a benchmarking and public disclosure program. The data access establishes standards under which the utilities must provide whole building data upon request by a building owner or someone representing them. Benchmarking reporting defines requirements for owners of buildings of certain sizes and uses to benchmark their properties and report their results to the California Energy Commission.

Some of the state goals with Assembly Bill 802 are to help to improve the development and evaluation of policies and programs, and state energy infrastructure planning. When cities and states better understand how much energy building types are using, that's going to help them better understand future needs for energy consumption and better planning. Another really important goal is to also

improve statewide building efficiency to reduce environmental impacts. That specifically supports state goals like SB 350, which is the Clean Energy and Pollution Reduction Act of 2015, which aims to double energy efficiency savings by 2030.

Some of the goals and benefits for building owners with Energy Benchmarking Program include providing building owners access to their building energy use from utilities, which was not previously possible with AB 1103. This is also going to help owners monitor their building energy performance and save energy, and will help businesses and residents save money on their utility bills.

There are many benefits with benchmarking your property. You can increase awareness about how much energy you're using—are you using more energy than normal? You can't manage what you don't measure, and benchmarking provides a really good baseline to help you understand your energy usage. There's a lot of research that also suggests that benchmarking, which allows for a building's energy use to be compared to its prior performance and to that of its peers, can lead to additional savings of about 3% every year in energy expenditures alone. Benchmarking also provides building owners with knowledge that enables smarter and more cost effective improvements in building energy usage. It's really important to understand how much energy you're using so you can compare with how you're doing in comparison to your peers. If you understand that you're building is inefficient, it also can lead to action for a lot of building owners to work towards making their building more energy efficient. Another important benefit is that you can also get a competitive edge in the industry by promoting your building's efficiency efforts. One of the things that you can do is apply for an ENERGY STAR label and become ENERGY STAR certified, and that's a great way to get recognition from the EPA. This only applies to high performance buildings that are able to achieve a score of 75 or above. A lot of our properties pursue ENERGY STAR labels on an annual basis, which is a great way to get 3rd party recognition from a reputable organization. Sometimes we also talk about the percentage of our portfolio that's benchmarked, what percentage of our portfolio is labeled, what's our average ENERGY STAR score, and it's becoming a really important way in the industry to showcase better management practices and that you're managing your building in an efficient way. So because this translate into lower operating expenses, I think a lot of different stakeholders, like investors or tenants, understand that by being in a more efficient building, that means it's going to cost less for them to be in that property, which is a very important value creation proposition. Benchmarking has a lot of other great benefits so it's important for all building owners to take steps to better understanding their energy consumption.

It's also important to understand what's happening on a national scale when it comes to building benchmarking policies. Although California is in many ways leading the way, there's a lot of other states that also have implemented benchmarking policies and regulations. So you can see on this map, in case you have buildings in other states as well, that there's other types of policies being adopted. Not only the states that we're showing here have those benchmarking laws already in place, there's also a lot of other states that have those benchmarking laws in the pipeline. So you should expect to see more and more of those benchmarking policies in place. We support many building owners on a national scale and one of the things we find really helpful in states where those benchmarking policies are in place, is that in conjunction with those policies, they also are making data access more available, and in a lot of the cases when tenants have full control of the data, this enables many building owners to request whole building data from their utilities, which really helps to better understand their energy consumption. So

we find that those benchmarking policies are very beneficial because it helps everyone to understand how much energy their buildings are using.

Another important thing to understand is the definition of a utility account because this is the threshold that the California Energy Commission is using to determine if a building has to comply with the benchmarking law or not. The goal of the California Energy Commission is to use utility accounts to represent the number of unique tenants in a building, and also to establish appropriate criteria for addressing customer privacy concerns. On this slide, we're going to explain the difference between a single utility account and multiple utility accounts. So for multiple addresses within a building that are served by the same utility account for a single energy type, those separate addresses will be treated as separate accounts. For example, if there are 20 tenants within one building, each with their own postal address, all 20 tenants represent one utility account for a total of 20 utility accounts. If you have a single address that is served by multiple utility accounts of a single energy type, those accounts will be treated as a single account. So for example, one business with separate utility agreements or meters for indoor electricity and outdoor lighting count as one utility account.

Another important definition to understand is gross floor area. As defined in the ENERGY STAR Portfolio Manager, that's the total building square footage measured between the principal exterior surfaces of the enclosed fixed walls in the building. A gross floor area should include all areas inside the building, including lobbies, tenant and common areas, meeting and break rooms, basements, storage rooms, and other types of important spaces. It should also include parking garages if it's covered, but it should exclude uncovered parking lots. One important thing to note is that gross floor area is different than rentable area. Another important aspect of your square footage is that it's also a threshold to determine if your building has to comply with the benchmarking law or not. So it's very important to make sure that your gross floor area is accurate.

These are very important definitions, a covered building and a disclosable building. A covered building is the main category, so utilities have to provide data to all covered buildings upon request so all covered buildings can request data access from the utilities. So which buildings are included in this category? If you have no residential utility accounts or if you have five or more active utility accounts of any one energy type with at least one of which is residential, that's considered a covered building. So again, for a covered building, you can have data access, but you might not be required to disclose that information to the California Energy Commission. A disclosable building, on the other hand, is a building that has to comply with the benchmarking law. The disclosable building is a building that's covered by the program and they have to provide annual reporting of their energy consumption to the Energy Commission. The buildings that are included in this category include buildings that have more than 50,000 square feet of gross floor area, and also that have no active residential utility accounts, or they have 17 or more active residential utility accounts of each energy type serving the building. So just one more time, all covered buildings are eligible to get data access from the utility but not all covered buildings are required to benchmark and disclose. All disclosable buildings are required to provide annual reporting to the Energy Commission. Please note also that for multi-tenant buildings, utility accounts may be assessed by postal address rather than by number of utility agreements.

So this slide just shows a graph to help us explain one more time who is required to comply. Again, we can see that we have a category, which is covered buildings, that are able to request utility data from your local utilities but they're not required to benchmark and report. So Disclosable building type one

are larger buildings—like large commercial buildings– more than 50,000 square feet with no residential utility accounts. And disclosable Building type 2 are buildings that are larger than 50,000 square feet with 17 or more residential utility accounts, so this may apply to larger multifamily properties that will be required to comply if they are larger than 50,000 square feet.

In this slide, we're going to cover some of the data access provisions with the program. This will help you understand in which scenarios you will need to get customer authorization to be able to request whole building data from the utility or in which scenarios you do not need to get customer authorization. So if you have at least one residential utility account and you have 5 or more utility accounts, no customer authorization is needed so you can request for that data directly from the utility. If you have less than 5 utility accounts, you will need to get customer authorization before you can request whole building data from the utility but please note that those buildings that have less than 5 utility accounts are not covered under the benchmarking laws. If you have no residential utility accounts and you have 3 or more utility accounts, you also do not need to get customer authorization. But if you have less than 3 utility accounts and no residential utility accounts, you will need to get customer authorization to be able to request data from the utility.

Another very important topic to cover is the deadline to comply with the program. On this slide, we're going to be covering some of the key timeframes of the program. So on March 1 of 2018, the regulations went into effect. All reports will be due on June 1 of every year after the first year of reporting. Below, we're also going to review the compliance schedule that varies depending on the building type. If you're a large building that's more than 50,000 square feet and you have no residential utility accounts, your first benchmarking deadline is going to be June 1, 2018, and you'll be reporting the previous year of data from 2017. The first public disclosure of your data will start the following year in 2019, reporting your 2018 data. So it's always the data from the previous year that you're going to be reporting. If your building has 17 or more residential utility accounts for each energy type serving the building and is more than 50,000 square feet, your first benchmarking reporting deadline is going to be the following year, June 1 of 2019 and you'll be reporting your previous year's data from 2018. Your first public disclosure of data is going to be the following year in 2020 and you'll be reporting your 2019 data. So in the second scenario, you're talking about larger multi-family buildings. So now that we've covered this portion, as a next step, Valerie Chan, who's one of our energy engineers, is going to be talking about steps of how to comply with the benchmarking law.

Thanks Daniele. My name is Valerie, an energy engineer with Verdani Partners. In this next section, we'll go over the steps for how to comply with the Energy Benchmarking Program

This here shows the general steps of the expected process flow for compliance. The first step is to assess your portfolio and identify if you're required to comply. Once confirming that you need to comply, the second step is to set up your building in ENERGY STAR Portfolio Manager. After you're all set up with your account, you need to gather your utility data by requesting it from utility company. The fourth step is to finalize your data, and ensure there's no errors or gaps within your data. And the last step is to submit your data through Portfolio Manager and then receive a confirmation email. Because reporting is due every year you'll generally repeat steps 3-5 before the reporting deadline.

This chart helps to outline who is required to comply, along with exemptions and cases for existing benchmarking requirements. So disclosable buildings are required to comply, and this includes buildings

over 50,000 square feet with either no residential utility accounts or with at least 17 residential utility accounts. Some exemptions apply, however, such as condominiums and buildings with more than half of the building area used for scientific experiments, manufacturing, or industrial purpose. Other exemptions include buildings without a temporary or permanent certificate of occupancy for more than half of the calendar year and buildings scheduled to be demolished one year or less from the reporting year. For local benchmarking requirements like Berkeley, Los Angeles, and San Francisco, there are no local exemptions yet. If your local jurisdiction applied and received exemptions, you'll only need comply to your city and you will be compliant with the state program. Otherwise, you'll still need to report to the Energy Commission, so it's important to check with your city to make sure they applied for an exemption.

Thanks, Valerie. So my name is Chris Wei, and I'm a senior energy engineer with Verdani Partners. In this section we'll go over how to report and comply with ENERGY STAR Portfolio Manager.

ENERGY STAR Portfolio Manager is a secure, free, and interactive online energy management tool. It can help you track and assess energy, water, and waste consumption. There are also a lot of consultants out there who can assist you with benchmarking if you have any questions or need additional assistance.

Listed here are the general steps on how to get your profile set up. You would want to first collect all your property attributes and then create a Portfolio Manager account. You would then enter all buildings for which compliance is required and then create meters for utility and consumption data.

To collect property attributes, you would want to make sure that you gather all the necessary information for your building. Sometimes it may be helpful to collect this data from someone who is familiar with the building such as someone from the property management team. The ENERGY STAR Portfolio Manager website has a spreadsheet you can download to help gather all the basic information to get started. Examples include the property name & address, total gross floor area, and the year built.

Now we're going to go over how to set up a property in Portfolio Manager.

Okay, so for this page, we're going to show you how to create a Portfolio Manager account. So you can see here that there's a link and you can click here to get started. All you would need is to create a username, password, confirm your password, and fill out the necessary information.

To add and setup a property, you would want to start off by selecting your property type. For example if the building is an office building, retail building, or another type of building. You can then select if this is only a portion of a building, a single building, or more than one building. So only when multiple buildings are served by a single meter would you want to select this option "more than one". You can then identify if this building is an existing one, a design project, or a test property. However, no one in the design phase is required to report for this program.

If you have multiple properties that you want to add and set up, there's a button on the left side where you can click where it says "upload and/or update multiple properties". You can also choose the type of upload, so you would want to choose "Add New Properties" and upload your template. There's an "Add Properties Template" that you can fill out and you can go ahead and bulk upload all your properties into ENERGY STAR Portfolio Manager.

If you want to update or edit any of your property details, in each section of your space types, there's an action tab where you can click on the "I want to" drop down menu. In this drop down menu, you'll be able to see many categories where you can view update history, if you want to update with new information, or correct any mistakes that you made in the past.

Once you click on the edit/update property button, you'll be directed to this page. Over here, you can see that there's a page which shows your gross floor area, weekly operating hours, and many other categories which you can update.

If you have parking in your facility, there's a section where you can enter your parking details. For example, they break it down into certain categories. If you have an open parking lot size, you can put in the square footage there. If you have a partially enclosed parking garage, there's a square footage category for that. For example, if the sides of your garage has partial openings, this would be considered as a partially enclosed parking garage. If you have a completely enclosed parking garage, for example, if it's underground parking, then there's a space for that as well.

So the next step, in order to enter in your data, you would want to create meters. So the first step is to identify what energy sources you have in your building. For example, the energy types include electricity, natural gas, steam, fuel oil, and there are additional energy sources as well. A few of these include propane, chilled water, and many more which you can find once you click on the energy tab in Portfolio Manager.

In the following slides, we will highlight how you can set up your energy meters in Portfolio Manager.

So we're going to go through a few steps on some of the previous steps that we talked about, but you're going to get some visuals here so that you can get a step by step illustration of how it's done. So to create a meter, you would want to click on the energy tab, and then there's a button where says "add a meter". So once you're ready to create your meter, you can go ahead and click on that button.

You will then be directed to this page where it shows the sources of your energy. So as we stated previously, there's a lot of energy sources that you can select. For example, electricity, natural gas, or many other energy sources if you have them in your building.

Once you select your energy source, you'll then be directed to this page, where you can create a name for your meter. For example, if you're tracking electricity, you can name it "Main Building Electricity" or the same if you have natural gas. You'll then be able to select what type of units you have. For example, if it's electricity, you can track in kWh or therms if you have natural gas. You want to make sure that you select the date that the meter became active and check that it's still in use. If it's a meter that became inactive, you'll want to go ahead and select a date that it became inactive.

If you have multiple meters in your building, there's also an option to enter all your meters in bulk. If you see on the right side, there's "Entering Your Meters in Bulk" option, and if you click on that link, once you're ready to set this up, you'll be able to upload this information into ENERGY STAR.

For step 3, we're going to go through the process on how you can request utility data. So for utilities that have web services, one of the easiest ways to obtain the data is through getting aggregate whole building data through the utility provider. And there's many ways that you can do that depending on the utility provider. So you would request whole building data from the utility and follow their specific

instructions to making this request. The utility will then sync your account to ENERGY STAR Portfolio Manager. For utilities that don't have web services or you would prefer not to get whole building data, there's also additional options available. For example, you can also upload data and have it synced into Portfolio Manager at the meter level. In addition, if you have a building owner who has access to all the bills, they can also enter it manually themselves. Another option is that you could also hire a 3rd party utility automation service provider to do the work for you.

To highlight some of the data access provisions again, you'll need customer authorization if you have less than 3 non-residential utility accounts. If you have less than 5 utility accounts, one of which is residential, you'll also need customer authorization but you are not required for this program.

The options for requesting customer authorization include providing permission at the time of the request or the utility will contact the customer that building-level energy use data has been requested and will need to sign off or authorize the release of that data.

This slide lists some of the guidelines of what you need to provide in order to receive data. You would need to provide a building address, verification that the requester is acting on the owner's behalf, and also proof that there is an active utility account serving multiple addresses along with a unique postal address in the building. In addition, written permission may be required for utility customers and if fewer than 3 utility accounts exist, there must be an indication of whether the request is made for compliance with benchmarking and public disclosure requirements.

Provided here are links for more information on how to request whole building data for specific utility providers. The process to request data varies between each provider, so we would definitely recommend that you check out the link for the utility provider serving your building for more information.

Listed here are a couple methods on how to upload data. If you have access to all the utility bills in the building, one way to do it is to enter in the data manually. You would want to make sure that you have 12 months of whole building data. Since not all billing cycles would start and end exactly at the beginning and end of each month, you may need more than 12 months to ensure that the entire calendar year is covered. You can do this by downloading the portfolio manager template, entering the data, and uploading the template. Additionally, some utilities may send a spreadsheet of the data to the requester to upload. Another method is to connect with your utility provider or a 3rd party organization that offers utility automation services. You would want to share your property with the utility or organization and confirm that the property is connected.

So for method 1, which is manual entry of meter data, you have a few options. You can manually enter the meter data one by one, but we highly recommend that if you do have multiple meters and you do have access to it, that you choose the bulk upload option that we'll talk more into detail in the next slide. On the meters entries page, you can click on "add another entry" to enter billing information for each meter and after you click "finish meter setup", you'll be able to see that there's a page where you can choose the meters to add to total consumption.

To bulk upload your data, there is a link on the bottom called "spreadsheet template" where you can go and download a template to enter in all your information. You would want to include your start and end date, usage, and also indicate whether or not the value is an estimated one. There's also cost, demand,

and demand cost information but this is not required and are only optional items that you can include if you have them.

Once you upload all your data, you will be directed to a page where you can confirm that the meters account for the total whole building consumption. You want to note that if you have sub-meters these do not account for total consumption. Also, you would also want to note that although local benchmarking programs may require water benchmarking, it is not a requirement for the state program.

So now we're going to show you how to connect with other Portfolio Manager Users.

So now we're going to show you how to connect with the utility provider. So on the upper right hand corner where it says "contacts" go ahead and click on that button and you will then be directed to a page of all your contacts. You can then click the button that says "Add Contact" where you'll be directed to a page that says "find contact in Portfolio Manager". You can then type in the organization name of that utility provider in that box, and once you click on the search button, you'll be able to search for their profile and send a connection request.

If you have a third party organization who will be uploading your data, you would want to follow the same steps that you got set up with your utility provider. So basically, you would click on the add contact button and also search for your organization to send a connection request to them.

We will now demonstrate how to share properties in Portfolio Manager in the next few slides.

To share your property with a contact, you would want to click on the sharing tab on the upper left hand corner and then click on the "share or edit access to a property" button. Once you click on that button, you have a few options. You can either select a single property or multiple properties to share. And then you would want to select who you want to share it with in step 2 and also choose the permissions.

On this page, you can choose the level of access that you will be providing that contact. For example, there is an option to do bulk sharing if you want the same permission for all your sharing requests. For example, you have the option to select read only-access, full access, or you can also customize your access. In the case that you need different permissions for each share request, you can also select the personalized sharing & exchange data option.

One very helpful tool in Energy Star Portfolio Manager is their Data Quality Checker tool. So within the summary tab under metrics summary, there is an option where you can click on the button where it says "check for possible errors". Once you click on this button, you'll be directed to this page where it says "select timeframe & run checker". So you would select your year ending date and what it will do is run a checker through that whole year to look for any potential errors or discrepancies in the information that you input.

The final step is to submit the actual report to the state. You can click on the appropriate reporting link provided and also log into your portfolio manager account. You will then be directed to a page where you would fill out the necessary data response fields in order the generate a report and you can also review the data in case you notice any errors or discrepancies. You can then submit this to the Energy Commission directly in ENERGY STAR Portfolio Manager and once you receive a confirmation email, it confirms that you have completed compliance.

When you go to the Energy Commission's website, there will be two different reporting links. One will be for when you have all data available for your building, where this link will direct you to submit your building characteristics and your energy consumption. The other link will be for if you did not receive customer authorization and could not get your whole building's data. This link will direct you to submit only your building characteristics and not your energy consumption.

After clicking the appropriate reporting link, you'll be directed to log into Portfolio Manager.

After logging in, you'll need to fill out the form with information about your response, like if you're submitting the data on behalf of yourself and which properties you'll be submitting for.

Under your reporting tab, you'll then be able to locate your template report.

To make sure your response is completely filled out and accurate, you can click Preview Response under the I want to drop down menu. This is where you can see the information that you'll be sending to the Energy Commission and identify any errors before submission.

Going back to the reporting tab and the "I want to" drop down menu, you can select the option to send your response. This is where you'll fill out who to send a confirmation to about your submittal and certify the release of your data.

Listed here are some general tips on how to maintain an accurate building profile. You definitely want to make sure that gross square footage is being used and that you verify this value along with other items such as the number of occupants, number computers, and weekly operating hours. You also want to adjust occupied and unoccupied space whenever a tenant moves in and out, and also to compare your building's energy bills to what your utility enters into Portfolio Manager.

Thanks, Chris. In this next section, we will highlight some of the key additional resources available to help you comply with California's Energy Benchmarking law.

The California Energy Commission's website also has a list of frequently asked questions that go over the benchmarking program. This is a helpful resource as it goes into detail over various issues that you may encounter about the policy and the benchmarking process. The list of questions will be constantly updated to continuously address common issues and challenges throughout the implementation of this new energy benchmarking disclosure law.

For any additional questions or issues you may encounter, so the California Energy Commission has a hotline that you can call. It may be just easier to have someone talk you through the process or answer any questions you have. For more specific questions regarding data access procedures, the Hotline can also direct you to staff of the relevant utility. So the number you can call is 855-279-6460. You can also send an email to benchmarking@energy.ca.gov for more support.

We also want to provide a list of additional resources that are available. Some of the key ones include the official language about AB 802 which is the California Benchmarking Law we discussed in this presentation. We also included some resources available on the Energy Star website including some training and tutorials, a link to the Data Collection worksheet, a glossary of terms, and the list of utilities that provide data through web services. And finally we have included the link to the California Energy Commission's website which has all the resources we've discussed in this presentation including Frequently Asked Questions and the step-by-step training here.

Thank you for watching this webinar, and we hope that you found this to be a helpful resource to help you comply with the California Building Energy Benchmarking Program.